



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,160	12/12/2003	Sridhar Balasubramanian	03-1840	1647

7590 01/03/2006

LSI Logic Corporation
Legal Department - IP
1621 Barber Lane, MS D-106
Milpitas, CA 95035

EXAMINER

GU, SHAWN X

ART UNIT	PAPER NUMBER
----------	--------------

2189

DATE MAILED: 01/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities:

On page 6 line 24, "is" is misspelled. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3, 5, 9, and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As for claims 3, 5, 9, and 14, it is unclear to the Examiner whether the term "express command" refers to a short command, a fast command, or some other type of command. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2189

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 11-13, 15, 16, 18, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bell [5,410,707] (hereinafter "Bell").

As for claims 1, 12, and 18, Bell teaches a storage controller (Fig 1, excluding 112 Flash Memory Card), comprising:

- a processor (Fig 1, 101 Processing Component);

- a memory electrically coupled to the processor (Fig 1, 140 Random Access Memory);

- an externally accessible socket interface (Fig 1, 102 Memory Card Interface Controller), wherein the externally accessible socket interface provides an electrical connection to the processor; and

- a removable non-volatile memory module (Fig 1, 112 Flash Memory Card; Col 4, Lines 9-25) electrically coupled to the processor through the externally accessible socket interface.

Bell does not specially disclose that the processor, responsive to a given event, stores configuration information from the memory to the removable non-volatile memory module. However, Bell does disclose that the memory is used to store data and instructions used by the processor (Col 3, Lines 64-66), and configuration information

Art Unit: 2189

(boot data) is loaded/restored from the removable non-volatile memory module to the memory responsive to a given event (Col 8, Lines 18-38). The (configuration information) boot data has to be written to the removable non-volatile memory module from a source, and it would have been obvious to one ordinarily skilled in the art at the time of the Applicant's invention that this source could be the memory electrically coupled to the processor, and the processor, responsive to a given event, stores configuration information from the memory to the removable non-volatile memory module in order to create a backup copy.

It is also clear that the method of claim 1 is performed by the storage controller disclosed in claim 12, and the apparatus of claim 18 is disclosed by claim 12 as well.

As for claims 4 and 19, Bell teaches responsive to a restore event, restoring the configuration information from the removable non-volatile memory module to the first storage controller (Fig 3, 405-409; Col 3, Lines 43-46; Col 8, Lines 18-38).

As for claims 11 and 15, Bell teaches the configuration information includes at least one of configuration data, firmware, bootware images, and component summary data (Col 3, Lines 43-46, Bootstrap; boot/configuration/component data is also mentioned in numerous other places in the reference).

As for claim 13, Bell teaches the externally accessible socket interface is a Personal Computer Memory Card International Association card slot (Col 4, Lines 35-43).

As for claim 16, Bells teaches the removable non-volatile memory module is flash memory module (Col 4, Lines 10-17).

Claims 2 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bell and Cloutier et al. [US 6,920,527 B2] (hereinafter "Cloutier").

As for claims 2 and 14, Bell does not specifically disclose that the given event is one of an expiration of a period of time and an express instruction from an operator. However, Bell does teach that the loading/restoring of configuration information from the removable non-volatile memory module as disclosed above is done in response to an express instruction from an operator (Col 8, Lines 18-21; Fig 3, 405; fetched by processing component 101), and it would be been obvious to one ordinarily skilled in the art at the time of the Applicant's invention that a similar express instruction can be issued by the operator in order to store configuration information from the memory to the removable non-volatile memory module in order to create a backup copy. Furthermore, Cloutier teaches a storage controller that stores data in the memory to a non-volatile memory in response to an expiration of a period of time (Col 4, Lines 34-38) in order to periodically backup the updated data in the volatile memory, and it would be

been obvious to one ordinarily skilled in the art at the time of the Applicant's invention that Cloutier's teaching can be applied to that of Bell's in order to allow periodic backup of configuration information updates in the memory to the removable non-volatile memory module.

Claims 3, 5-10, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bell and Harari et al. [US 6,266,724 B1] (hereinafter "Harari").

As for claim 3, Bell does not particularly disclose that the given event is an express command from an operator through one of interface software and a boot menu console. However, Harari teaches that data transfers are controlled by express commands through interface software (Col 7, Lines 46-61; Col 8, Lines 8-20), and it is clear to the one ordinarily skilled in the art at the time of the Applicant's invention that Harari's teaching can be combined with that of Bell's in order to manage data transfer between the storage controller and the removable non-volatile memory module.

As for claim 5, Bell does not particularly disclose that the restore event is an express command from an operator through one of interface software and a boot menu console. However, Harari teaches that data transfers are controlled by express commands through interface software (Col 7, Lines 46-61; Col 8, Lines 8-20), and it is clear to the one ordinarily skilled in the art at the time of the Applicant's invention that

Harari's teaching can be combined with that of Bell's in order to manage data transfer between the storage controller and the removable non-volatile memory module.

As for claims 6 and 7, Bell does not particularly disclose disconnecting the removable non-volatile memory module from the first storage controller and connecting the removable non-volatile memory module to a second storage controller. However, Harari teaches exactly that (Fig 9) in order to transfer data from one controller to another (Col 14, Lines 2-13), and it would have been obvious to one ordinarily skilled in the art at the time of the Applicant's invention that Bell's teaching can be combined with that of Harari's in order to transfer configuration information from the first storage controller to the second.

As for claims 8, 9 and 20, Bell does not particularly disclose restoring the configuration information from the removable non-volatile memory module to the second storage controller. However, Harari discloses restoring data from the removable non-volatile memory to a second storage controller (Fig 9; Col 14, Lines 2-13) in order to transfer data from one controller to another,), and it would have been obvious to one ordinarily skilled in the art at the time of the Applicant's invention that Bell's teaching can be combined with that of Harari's in order to bootstrap a second storage controller using the configuration information stored in the removable non-volatile memory. The restore event described above in claim 5 can be similarly applied to a second storage controller.

As for claim 10, Bell teaches determining whether the configuration information is compatible with the storage controller (Col 9, Lines 63-68; Col 10, Lines 45-54), although it doesn't teach that the determining step is applied to the second storage controller. However, it would have been obvious to one ordinarily skilled in the art at the time of the Applicant's invention that the determination step can be applied to the second storage controller since it similarly restores configuration information from the removable non-volatile memory as does the first storage controller. Bell also does not particularly point out notifying an operator of incompatible configuration information, responsive to the configuration information not being compatible with the second storage controller. However, it would have been obvious to one ordinarily skilled in the art at the time of the Applicant's invention that notifying the processor of incompatibility is an apparent if not necessary step after the determination step, otherwise the result of the determination step would have been unknown to the operator.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bell and Ban [5,404,485] (hereinafter "Ban").

As for claim 17, Bell does not particularly point out that the flash memory module has a flash file system format for storing data. However, Ban teaches a flash memory module that uses a flash file system format (Col 1, Lines 5-10) for providing compatible data management with existing operating systems (Col 1, Lines 29-49). Therefore, it would have been obvious to one ordinarily skilled in the art at the time of the Applicant's

Art Unit: 2189

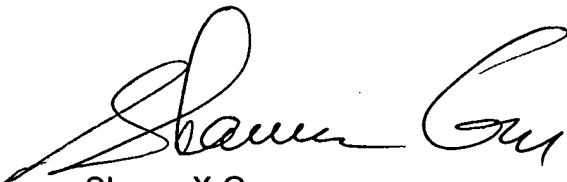
invention that Ban's teaching can be combined with that of Bell's in order to provide compatible data management on the flash memory with existing operating systems.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shawn Gu whose telephone number is (571) 272-0703. The examiner can normally be reached on 9am-5pm, Monday through Friday.

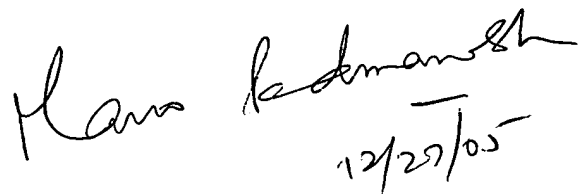
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (571)272-4210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Shawn X Gu
Assistant Examiner
Art Unit 2189

21 December 2005



MANO PADMANABHAN
SUPERVISORY PATENT EXAMINER